National Heart Attack Alert Program
Coordinating Committee
and Subcommittees

MEETING SUMMARY REPORTS

February 28–29, 2000
Reston, Virginia

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CONTENTS

NATIONAL HEART ATTACK ALERT PROGRAM (NHAAP)
COORDINATING COMMITTEE MEETING

February 28–29, 2000
Reston, Virginia

HIGHLIGHTS

- Dr. Lenfant introduced one new member organization to the Coordinating Committee, the Society of Chest Pain Centers and Providers, represented by Dr. J. Lee Garvey; three new representatives, Dr. Emmet Ferguson of the American College of Occupational and Environmental Medicine, Ms. Jill Gross of the American National Red Cross, Mr. Christopher Cebollero of the National Association of Emergency Medical Technicians; and Dr. Denise Hirsch, substituting for Dr. Samuel Goldhaber, of the American College of Chest Physicians.

- Dr. Christopher Cannon presented an overview of the preliminary draft of the NHAAP's Critical Pathways paper.

- Dr. Joseph Ornato reported on the National Heart, Lung, and Blood Institute's (NHLBI) public access defibrillation (PAD) research program. The research program will test patient survival from cardiac arrest in a traditional emergency medical services (EMS) system versus a system with nontraditional responders using automated external defibrillators (AEDs). The use of AEDs by specialized personnel, such as airline flight attendants, has been occurring, but at this point, general access to defibrillation apparatus by the public (so-called level 3), does not occur. Dr. Ornato also reported that the American Heart Association continues its development of new CPR guidelines. Finally, Dr. Ornato reported on the American College of Cardiology/American Heart Association's 31st Bethesda Conference on Emergency Cardiac Care held in September 1998.

- Ms. Carole Webb described plans under way by the NHLBI, four other National Institutes of Health institutes, and several other Federal agencies for a workshop to develop an innovative research agenda for the broad area of cardiopulmonary resuscitation (Post-Resuscitative and Initial Utility in Life Saving Efforts, or PULSE). The workshop will take place on June 29–30, 2000, in Leesburg, Virginia, at Landsdowne Resort and Conference Center.

- Ms. Jill Gross introduced a new video produced by the American National Red Cross, "Workplace Training: Signals of a Heart Attack," which is used as a component of the Red Cross's workplace training program.

- Mr. Frederick Rohde discussed the Healthy People 2010 heart disease objectives that relate specifically to the NHAAP, within the overall Healthy People 2010 framework launched by the Department of Health and Human Services in January.

- Drs. Stavroula Osganian, Clay Mann, and Darwin LaBarthe presented additional preliminary data from the Rapid Early Action for Coronary Treatment (REACT) research program. Ms. Mary Hand and Ms. Terry Long discussed the REACT research program findings and plans for future public efforts in light of those findings.

- Ms. Hand announced that the next NHAAP Coordinating Committee meeting will be held on October 2–3, 2000, in Reston, Virginia.

National Heart Attack Alert Program

Coordinating Committee Meeting

February 29, 2000
Reston, Virginia

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE
NATIONAL HEART ATTACK ALERT PROGRAM (NHAAP)
COORDINATING COMMITTEE

Meeting Summary
February 29, 2000

WELCOME AND INTRODUCTION OF NEW MEMBERS [Dr. Claude Lenfant]

Dr. Lenfant introduced one new Coordinating Committee member organization to the Committee, the Society of Chest Pain Centers and Providers, represented by Dr. J. Lee Garvey; three new representatives, Dr. Emmet Ferguson of the American College of Occupational and Environmental Medicine, Ms. Jill Gross of the American National Red Cross, Mr. Christopher Cebollero of the National Association of Emergency Medical Technicians; and Dr. Denise Hirsch, substituting for Dr. Samuel Goldhaber, of the American College of Chest Physicians.

Dr. Lenfant reviewed the meeting agenda, noting especially the discussions of public education efforts in light of the Rapid Early Action for Coronary Treatment (REACT) results and the new Healthy People 2010 health objectives for the Nation. He asked the committee members to pay attention to the need to translate findings into actions. "We know a lot," said Dr. Lenfant, "but how well do we apply what we know?" He asked that the committee members redouble their efforts.

Dr. Lenfant introduced Dr. George Sopko, Medical Officer, Division of Heart and Vascular Diseases, NHLBI. Dr. Sopko will act as the physician liaison between the Institute's research community and the NHAAP Coordinating Committee.

EXECUTIVE COMMITTEE REPORT [Dr. James Atkins]

Dr. Atkins reviewed the Executive Committee's position on public education in the wake of the REACT results. (A copy of Dr. Atkins' slides for this presentation is provided in Attachment C). The Executive Committee held a conference call on July 29, 1999, discussing issues and recommendations. Conclusions included the following:

- It is time to do something to educate the public.
- REACT results do not warrant a large-scale campaign.
- The NHAAP should modify current materials.
- Efforts should target women, minorities, the elderly, and others who experience longer delay times.
- Data-driven efforts should be used.
- Use of informatics and exploration of other technologies should be continued.
- Symptoms associated with a heart attack should be emphasized.

On another subject, Dr. Atkins reported that he has been serving as the NHAAP representative on the Joint Commission on Accreditation of Health Organizations' (JCAHO) core measures project. He announced that the JCAHO recently adopted 25 measures in 5 disease areas: acute myocardial infarction (AMI), heart failure, surgery, pregnancy, and pneumonia. Measures related to AMI are the following: smoking cessation counseling, aspirin at arrival, time from arrival to initiation of reperfusion therapy, beta blockers at arrival, aspirin at discharge, ACE inhibitors at discharge, beta blockers at discharge, and in-hospital mortality. The group plans to develop additional measures and to have hospitals phase in the measures (more slowly at smaller hospitals). Hospitals will begin collecting data in January 2002 and submitting data in July 2002.

The Health Care Financing Administration (HCFA), through its sixth scope of work, also has developed quality measures for AMI that are very similar to those of the JCAHO. HCFA measures will apply only to Medicare recipients not in HMOs.

Lastly, Dr. Atkins reported on the American Heart Association's (AHA) new campaigns, Operation Heartbeat and Operation Stroke. This large effort will begin with a campaign targeting major metropolitan markets and all parts of the system surrounding the chain of survival. It is projected that in January 2001, a general public education campaign will begin and will include paid advertising on radio and television. One message will be "Know the warning signs. Call 9-1-1." The AHA will collect data during the campaign, expanding current databases and eventually developing new ones.

SUBCOMMITTEE REPORTS

Health Systems Subcommittee Report [Dr. Bruce MacLeod]

Dr. MacLeod reported that the Health Systems Subcommittee welcomed its new vice chair, Ms. Mary Beth Michos. The subcommittee heard from Dr. Dale Burwen of HCFA, about HCFA's efforts (noted by Dr. Atkins) to reduce mortality of AMI patients in the Medicare population. For its investigation of how managed care affects patient behaviors, the subcommittee heard from Ms. Michelle Fried, who described ongoing efforts to have care providers accept (that is, reimburse costs of) emergency treatment-seeking decisions by a "prudent lay person." The subcommittee members also discussed their ongoing effort to investigate the possibility of working with businesses to advance care for patients with potential acute coronary syndromes.

Education Subcommittee Report [Dr. Mark Johnson]

Dr. Johnson reported that the NHAAP has acquired the rights to use the REACT materials. The NHAAP can now consider using these materials in national programs. The subcommittee continued to discuss the creation of a symptoms-and-action message for the general public, including coordinating such a message with the upcoming AHA Operation Heartbeat campaign. Finally, the subcommittee discussed anecdotal evidence that patients avoid summoning emergency medical services because they wish to avoid the embarrassment that accompanies the ensuing commotion.

Science Base Subcommittee Report [Dr. Joseph Ornato]

Dr. Ornato reported that Dr. Joseph Lau, Director, Agency for Healthcare Research and Quality (AHRQ) Evidence-based Practice Center at New England Medical Center, gave an overview of the report on emergency department technologies that had been recently updated. The subcommittee discussed developing a foreword or an editorial for the report to help readers best appreciate subtle matters such as sensitivity, specificity, and cost-effectiveness of the technologies as applied to certain subgroups of patients.

Dr. Ornato related that the subcommittee then discussed the interim literature review that had been prepared for the subcommittee and the research recommendations suggested by the REACT trial. The members also heard a presentation by Dr. Christopher Cannon about the critical pathways report (described below).

The Coordinating Committee discussed issues brought up by the subcommittee reports. In particular, members considered factors and solutions regarding the reluctance of patients to call emergency medical services. They agreed that topics the committee might address include collecting data, educating the public, and investigating technologies that can be used by patients and emergency medical personnel. Dr. Lenfant asked the committee members to reflect on these issues and, in particular, seek answers to the problem of the reluctance of patients to call emergency medical services.

CRITICAL PATHWAYS FOR TREATMENT OF PATIENTS WITH ACUTE CORONARY SYNDROMES [Dr. Christopher Cannon]

Dr. Cannon described the report that reviews the literature on critical (also called clinical) pathways. (A copy of Dr. Cannon's slides for this presentation is provided in Attachment D.) The report describes rate-limiting steps that lead to variability in practice, thus serving as critical pathways in care. Goals of the report are to increase use of recommended therapies and decrease use of unnecessary tests and the length of hospital stays.

The report investigates ways of implementing the pathways and describes studies of comparison. One study found that improvement in care of AMI patients could be attained regardless of whether there were formal pathways; this suggests the importance of a broader definition of critical pathways. Dr. Cannon presented examples of data that will be in the report, demonstrating some of the variables that are being studied. Dr. Lenfant remarked that the data showing the relationship between mortality and time-to-treatment in the emergency department is powerful and ought to be distributed to the public. Dr. Cannon said that members of the committee are invited to offer suggestions over the next 2 months. He noted that the completed report will be posted on the NHAAP Web site, along with examples, slides, and links to other sites.

ORGANIZATION ACTIVITIES AND REPORTS

Key Activities in Emergency Cardiac Care [Dr. Ornato]

Dr. Ornato discussed the issue of public access defibrillation (PAD), in which nontraditional personnel apply treatment. (A copy of Dr. Ornato's slides for this presentation is provided in Attachment E.) The use of automated external defibrillators (AEDs) by specialized personnel, such as airline flight attendants, has been occurring. Currently, general access to defibrillation apparatus by the public (so-called level 3) does not apply, and trials would be needed to determine the effectiveness of level 3 application. Dr. Ornato cited one ongoing trial examining the effectiveness of PAD when applied by level 3 personnel.

Dr. Ornato reported that the AHA continues its development of new CPR guidelines, recently holding a large meeting on this topic. He described issues being studied. An AHA emergency care committee and subcommittees are now developing final algorithms for CPR. The AHA will publish the new guidelines in August 2000.

The American College of Cardiology/American Heart Association held a Bethesda Conference on Cardiac Care on September 13–14, 1999, for which Dr. Ornato served as a co-chair. Three main topics of the conference were cardiac arrest, evaluation and treatment of patients with potential acute coronary syndromes in the prehospital and hospital settings, and special aspects of research conducted in the emergency setting: waiver of informed consent. Results of the meeting were to be published in the March issue of the *Journal of the American College of Cardiology*.

The Coordinating Committee members discussed issues brought up by Dr. Ornato, including the use of, and laws surrounding the use of, defibrillators by medical personnel and others.

NHLBI Workshop: Post-Resuscitative and Initial Utility in Life Saving Efforts (PULSE) [Ms. Carole Webb]

Ms. Webb described the effort by NHLBI, along with four other NIH institutes and other Federal agencies, to harness the energies of communities in establishing research needs for resuscitative education. PULSE comprises seven committees, which are charged with assembling a group of experts who will define the pressing priorities. The experts (expected to number about 100) will gather at a workshop on June 29–30, 2000, in Leesburg, Virginia. The NHLBI Web site (www.nhlbi.nih.gov/meetings/pulse/index.htm) will offer details about the workshop.

The seven workshop topics (each covered by one of the seven committees) are myocardial rescue, neurological preservation, pharmacology and molecular mechanisms, pulmonary and ventilatory failure, mechanics of CPR, bioengineering, and epidemiology. Dr. Sopko, who is helping to organize the effort, cited the range of specialties represented by those who are planning the workshop. He stated that the participants have been asked to put

forth innovative ideas for discussion to develop a novel research agenda in the area of CPR (including trauma) that will result in improved patient outcomes.

American Red Cross Video "Workplace Training: Signals of a Heart Attack" [Ms. Jill Gross]

Ms. Gross introduced a new video created by the American National Red Cross, "Workplace Training: Signals of a Heart Attack," released in July 1999. It is used as a component of the Red Cross workplace training program and is meant to be viewed by employees during the CPR segment of the program. She played the video for the Coordinating Committee members, who then asked a few questions. Ms. Gross explained technical aspects, such as booking the workplace program, charges that apply, and presentations that accompany the video.

Healthy People 2010 Heart Disease and Stroke Objectives Related to the NHAAP [Mr. Frederick Rohde]

Mr. Rohde, a public health analyst at NHLBI, explained the Healthy People (HP) 2010 heart disease and stroke objectives and the current framework within which the Department of Health and Human Services organizes its activities. (A copy of Mr. Rohde's slides for this presentation is provided in Attachment F.) Launched officially in January 2000, HP 2010 has the overriding goals of increasing the years of healthy life and eliminating disparities in health. Development of HP 2010 involved a long process of convening working groups, creating guidelines, soliciting input, and drawing up principles and objectives.

Chapter 12 of HP 2010 contains objectives related to heart disease. Five objectives relate specifically to heart attack. For example, one objective is "to increase the proportion of adults who are aware of the early warning signs and symptoms of a heart attack." The NHLBI oversees the Chapter 12 objectives along with the National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention.

Mr. Rohde announced that NHLBI has been developing an Internet gateway (accessed through the NHLBI site) that will present information about efforts to meet the HP 2010 objectives.

TRANSLATING RESEARCH FOR THE PUBLIC BENEFIT: FOCUS ON EARLY RECOGNITION AND RESPONSE TO HEART ATTACK SYMPTOMS

Sharing Lessons Learned From the REACT Trial [Ms. Mary Hand]

Ms. Hand stated that the NHLBI has begun to act on the results of the REACT trial, which will have a bearing on the NHAAP's efforts in public education. (A copy of Ms. Hand's slides for this presentation is provided in Attachment G.) She introduced a series of speakers who presented details of REACT results and possible education efforts.

Effects of a Community Intervention on Use of Emergency Medical Services for Patients With Acute Cardiac Ischemia [Dr. Stavroula Osganian]

Dr. Osganian reviewed the REACT intervention activities, recalled the target populations and key messages (especially, to recognize the signs of acute ischemia and to act quickly), and gave some results. She presented examples of billboards that were used to promote the messages of the community education program. Analysis of the primary population (presenting with chest pain) demonstrated an increase in use of emergency medical services (EMS) in the intervention communities, with some subgroups increasing use significantly. Results showed that persons who had been released by emergency departments did not subsequently increase use of EMS.

Demographic, Belief, and Situational Factors That Influence the Decision To Use EMS Among Chest Pain Patients [Dr. Clay Mann]

Dr. Mann discussed factors that influenced the decision to use EMS, as measured in the King County, Washington, site of the REACT study. He reported that 89 percent of persons polled said they "would call 9-1-1" yet only 23 percent actually did. Persons with higher levels of education and those with a history of angina were more likely to use EMS. Having another person present during an event also made use of EMS more likely. Dr. Mann found that persons who utilized EMS tended to be older, were likely to be living alone, and were more likely to use EMS if an EMS prepayment plan was available. Persons who contacted their doctors during an event were less likely to use EMS. Other factors that may undermine the use of EMS were indecision, self-treatment, and cost concerns.

Impact of Community Intervention on Multiple Components of Delay Time Between Symptom Onset and Treatment for Acute Coronary Events [Dr. Darwin LaBarthe]

Dr. LaBarthe reported on an examination of Texas REACT data, which did not find a decrease in delay time during or following the intervention. He described his analysis of secondary considerations related to delay times, such as different phases of the intervention period, which found differences among certain subsets of people. Delays appeared to occur mainly in the period between symptom onset and calling EMS. Dr. LaBarthe cited a possible masked benefit, or decrease in delay, that occurred in a group comprising people with histories of myocardial infarction or coronary heart disease.

Update on Translating REACT Materials for National Dissemination [Ms. Mary Hand and Ms. Terry Long]

Ms. Hand reviewed the mandate and history of the NHAAP, especially in light of the REACT project. To date, the NHAAP has focused largely on educating health care providers and deferred public education pending the results of the REACT research program. Based on the REACT findings, the NHAAP's Executive Committee made the following recommendations:

- Do not replicate the REACT intervention.
- Avoid a large, expensive public education program.
- Modify and use the REACT materials for a national audience.

- Use multiple strategies, including information technologies.
- Target audiences with longer delay times, notably women, certain minority groups, and the elderly.

The NHAAP has begun to plan for the adaptation of REACT materials and the REACT Web site for use in its public education efforts. Chest pain centers have been chosen as one potential partner in future educational campaigns. Other groups that will be approached about strategic partnerships include the AHA and HCFA.

Ms. Hand listed potential core messages that the NHAAP will be disseminating, such as the symptoms of a heart attack, what to do if symptoms do not disappear, and other complementary messages, such as dispelling the notion of a Hollywood heart attack and the importance of a patient talking with his/her provider and family members about a cardiac emergency action plan.

Ms. Terry Long, NHLBI's senior manager for health communications and information science, described the variety of REACT educational materials that NHLBI's Office of Prevention, Education, and Control (OPEC) is considering to modify and use in new efforts to reach target audiences. (A copy of Ms. Long's slides for this presentation is provided in Attachment H.) Several of these materials have been tested and have won awards. Ms. Long stressed the goal of using these materials in strategic partnerships. OPEC will adapt the materials as appropriate, make the NHAAP Web site more comprehensive, and employ the materials in marketing campaigns involving partnerships.

Ms. Long noted the importance of future Internet efforts. Web usage continues to grow strongly and includes more groups, such as older people. A Web site for physicians, called Physicians' Online, now has 21,000 registered participants and receives about 40,000 visits per month.

OPEC hopes to assimilate the REACT Web site's educational materials and place them in a prominent position on the NHLBI Web site. For professionals, OPEC plans to offer educational materials that can be accessed online and used to earn continuing education credits.

OPEC will coordinate broad-based marketing efforts, some of which will target high-priority audiences. Web marketing will include a new electronic catalog and links to other Web sites. OPEC will develop partnerships and mobilize the partners to adopt, adapt, and disseminate the materials. Potential partners are community hospitals, chest pain centers, the National Council on the Aging, the American Red Cross, and the Association of Black Cardiologists.

Discussion: Further Insights for NHAAP Research Translation Efforts for the Public

Dr. Johnson moderated the final discussion session, which focused on new and future efforts to translate what is known.

Dr. Mann reported that the REACT survey asked why people did not call 9-1-1. Frequent responses were "I didn't think it was necessary" and "I could get there more quickly by

myself." Dr. Selker wondered about the increase in delay resulting from calling one's doctor. Dr. Mann noted that one study suggested that calling one's doctor reduces anxiety. He also noted that it was not known whether, in the REACT program, callers spoke to their doctor, another person, or an answering machine. Dr. LaBarthe noted that the REACT program also did not collect data over a long time period.

Regarding insurance, Dr. Mann stated that no effect related to a prepayment system was observed overall. However, when the data were stratified by income levels, the researchers did observe some effects of prepayment systems on delay times. Dr. Atkins noted that, in his community, persons of lower income use EMS more than do persons of higher income.

Dr. Johnson asked whether the phrase "Call 9-1-1" (used in the REACT program) was in fact the best message to use. Ms. Lori Moore expressed concern that the program did not focus on public education about symptoms and their severity. Dr. Atkins expressed his belief, based on past experience, that educating people leads to increases in EMS use.

Ms. Hand asked the REACT investigators for final thoughts. Drs. Mann and Osganian stressed the idea that people need to know *when* to call 9-1-1. Dr. LaBarthe stressed the need to focus on the avenues of information, for example, having people call 9-1-1 rather than call their health care providers.

Ms. Hand thanked the invited speakers. She asked the Coordinating Committee members to examine their meeting packets for copies of the latest version of the position paper on chest pain centers that had been mailed to them. She noted that Ms. Moore had distributed copies of a video about the fire department-based EMS system, "Meeting the Challenge of Change."

Ms. Hand noted that the group is considering creating an Extranet system for communication among committee members. She said she would provide an update on this effort at the next meeting.

ADJOURNMENT [Ms. Hand]

Ms. Hand advised participants to mark their calendars for the next Coordinating Committee meeting, which will be held October 2–3, 2000. Ms. Hand then thanked the members for their participation and adjourned the meeting.

National Heart Attack Alert Program

Health Systems Subcommittee Meeting

February 28, 2000
Reston, Virginia

NATIONAL HEART ATTACK ALERT PROGRAM
HEALTH SYSTEMS SUBCOMMITTEE

Meeting Summary
February 28, 2000

Subcommittee Members

Bruce A. MacLeod, M.D., F.A.C.E.P. (chair)
Mary Beth Michos, R.N. (Vice Chair)
Lawrence D. Jones, M.D.
Jeffrey Michael, Ed.D.
Lori Moore, M.P.H., E.M.T.-P.
Jimm Murray

Other Coordinating Committee Members

Angelo A. Alonzo, Ph.D.
James M. Atkins, M.D., F.A.C.C.
Allan Braslow, Ph.D.
Christopher Cebollero, M.S., E.M.T.-P.
Arthur A. Ciarkowski, M.S.E., M.B.A., M.P.A.
Lee Garvey, M.D.
Hannah Y. Ruggiero, R.N., COHN-S
David E. Simmons, Jr., M.S.N., R.N.

Guest

Dale Burwen, M.D., M.P.H
Michelle Fried

NHLBI Staff

Amy Danzig
Mary M. Hand, M.S.P.H., R.N.

Contract Staff (Prospect Associates)

Don Cunningham, M.A.
Alexander R. Kuhn, M.P.H.

WELCOME AND INTRODUCTIONS [Dr. MacLeod]

Dr. MacLeod welcomed subcommittee members and guests and asked the participants to introduce themselves. He reviewed the history of the Health Systems Subcommittee and its purpose, in particular, to examine barriers to care and to initiate systemwide changes. Recently, the subcommittee has investigated the area of measurement, guided by the idea that what is measured will be improved. The subcommittee recently gave input to the National Committee on Quality Assurance and Healthy People 2010. Dr. MacLeod introduced Dr. Burwen.

THE HEALTH CARE FINANCING ADMINISTRATION'S NATIONAL ACUTE MYOCARDIAL INFARCTION INITIATIVE [Dr. Burwen]

Dr. Burwen, Medical Officer, Acute and Chronic Disease Management Division, Office of Clinical Standards and Quality for the Health Care Financing Administration (HCFA), described HCFA's Health Care Quality Improvement Program, within which the agency is conducting the National Acute Myocardial Infarction Project. (A copy of Dr. Burwen's slides for this presentation is provided in Attachment I.) The program studies patterns of care and

seeks strategies for improvement. It identifies clinical errors, then develops ways to prevent future errors and improve care.

The program uses contracts with peer review organizations in the States, develops quality indicators, and studies the Medicare population. The study of myocardial infarction (Cooperative Cardiovascular Project) began interventions in four States in 1992, with a followup effort in 1995. Dr. Burwen presented data on changes in mortality rates related to variables including aspirin therapy, reperfusion, and use of beta blockers. The results varied substantially among States and demonstrated opportunities for improvement in care leading to potential decreases in mortality rates.

Dr. Burwen stated that the results will help persons within and beyond the Medicare population. HCFA has now initiated performance-based contracts, which will feature care within the quality indicators and will pursue the Government's 5-year goal to reduce the 1-year mortality rate following admission for myocardial infarction.

Subcommittee members noted that the program, because it was restricted to the Medicare population, did not study a majority of persons who use managed care. The members discussed factors that cause beta blockers to be used only about 50 percent of the time. They wondered whether other cardiovascular disease entities, such as unstable angina, might be included in HCFA's program.

QUALITY INTERAGENCY COORDINATION TASK FORCE

Ms. Hand gave an update on one activity of the Agency for Healthcare Research and Quality (AHRQ). She stated that President Clinton created the Quality Interagency Coordination Task Force to ensure that Federal agencies coordinate their activities. Ms. Nancy Foster coordinates activities at AHRQ and can inform the NHAAP of ongoing coordination efforts among governmental agencies. Ms. Foster was unable to attend the meeting as an invited speaker. The subcommittee members agreed to invite Ms. Foster to speak at a future meeting.

JOINT COMMISSION ON ACCREDITATION OF HEALTH CARE ORGANIZATIONS: CARDIOVASCULAR PERFORMANCE MEASURES [Dr. Atkins]

Dr. Atkins reported that the Joint Commission on Accreditation of Health Care Organizations had approved 25 core measures for 5 diseases. (A copy of Dr. Atkins' slides for this presentation is provided in Attachment C.) This is part of an effort to change the way hospital practices are assessed—moving away from process measures toward outcome measures.

Dr. Atkins described a few of the new measures that relate to AMI, including time to reperfusion therapy, use of aspirin upon arrival at the hospital, and time from arrival to initiation of treatment. He noted that more measures will be drafted, such as mortality within 30 days and cholesterol management. The measures will encompass all age ranges.

Hospitals will begin to collect data for the new measures beginning January 2002 and will begin filing reports in July 2002. The measures will be phased in at hospitals. Composite data will be published; whether all data eventually will be published has not been determined.

In discussion, the subcommittee members considered related issues, including creating other measures, such as time from call to needle and measures that precede the call. Data for measures prior to call will be difficult to collect. Many data issues will make large-scale analyses difficult, and researchers are far from completing a national database.

BARRIERS TO EMERGENCY CARE THAT MAY BE ASSOCIATED WITH MANAGED CARE

Implementation of the Prudent Layperson Definition of an Emergency Under Medicare and Medicaid [Ms. Fried]

Ms. Fried, Director of Federal Affairs, American College of Emergency Physicians, Washington, D.C., described an effort to lower a barrier to care by accepting the action of a "prudent layperson" who would reasonably seek medical care and receive subsequent reimbursement for the care, despite the outcome. The Federal Government has pursued this policy as a result of the 1997 Balanced Budget Act and intends to focus the policy in the area of Medicare and Medicaid through HCFA. Ms. Fried cited problems in implementing the policy and compared results in a few States. Dr. MacLeod cited the role of managed care organizations in ensuring that prudent decisions are respected.

Ms. Fried then noted that both the Senate and House versions of the Patient's Bill of Rights mention the prudent layperson concept. HCFA worked to ensure that reducing barriers to emergency medical care—including the concept of prudent layperson actions—were considered in the new Healthy People 2010 objectives. Subcommittee members discussed various aspects of barriers to care and problems in assessing those barriers.

Targeting Employers as Purchasers of Care [Ms. Hand]

Ms. Hand reported on her contact with the Buyers Healthcare Action Group, a coalition of employers based in the Midwest. The group provided information about its work as purchasers of health care. Ms. Hand also contacted the National Business Coalition on Health, which represents coalitions that contract with health plans. She informed the subcommittee that she will seek information from additional groups in the future.

OTHER HEALTH SYSTEMS ISSUES AFFECTING ACCESS TO CARE

Alternate Paradigm for EMS Response [Ms. Michos]

Dr. MacLeod announced that Ms. Michos has been appointed as the new vice chair of the subcommittee. Ms. Michos then reported on issues relating to the response of EMS and its effect on care. Many patients are reluctant to call EMS because of embarrassment they might feel as a result of the commotion in their neighborhood. Ms. Michos stated that people need to be

educated about the importance of EMS, including all vehicles. Ms. Michos stated that the issue of how EMS vehicles' lights and sirens might add to embarrassment and perhaps to delay times has not been studied. She suggested that the subcommittee consider examining the issue and releasing a statement on what emergency services ought to do.

The subcommittee members discussed this issue, agreeing that concerns about embarrassment leading to delay in medical care could be a significant problem. Dr. MacLeod proposed that the subcommittee members bring to the next meeting ideas for addressing the issue.

The American Heart Association's Operation Heartbeat/Operation Stroke **[Dr. Atkins]**

Dr. Atkins described the American Heart Association's (AHA) upcoming advocacy and education campaigns for heart attack and stroke, which will take place in major metropolitan areas around the country. (A copy of Dr Atkins' slides for this presentation is provided in Attachment C.) The AHA will enlist various support groups and will utilize print media as well as audio and video outlets. The campaigns will feature three key messages: (1) what to do in the case of cardiac arrest, (2) how to recognize a heart attack, and (3) how to recognize the early warning signs for stroke. The AHA will perform surveys and extend existing databases to gauge the effectiveness of the campaign.

ADJOURNMENT

Dr. MacLeod thanked the participants and adjourned the meeting.

National Heart Attack Alert Program

Education Subcommittee Meeting

February 28, 2000
Reston, Virginia

NATIONAL HEART ATTACK ALERT PROGRAM
EDUCATION SUBCOMMITTEE

Meeting Summary
February 28, 2000

Subcommittee Members

Mark B. Johnson, M.D., M.P.H. (chair)
Angelo A. Alonzo, Ph.D.
James M. Atkins, M.D., F.A.C.C.
Allan Braslow, Ph.D.
Jill K. Gross, M.P.H., C.H.E.S.
Kathleen G. Keenan, M.S.N., R.N.
Hannah Y. Ruggiero, R.N., COHN-S
David E. Simmons, Jr., M.S.N., R.N.
David B. Snyder, R.Ph., D.D.S.

Guests

Dale Burwen, M.D., M.P.H
Helen Stemler, Ph.D., C.H.E.S.

NHLBI Staff

Amy Danzig
Mary M. Hand, M.S.P.H., R.N.
Christine B. Krutzsch
Terry Long

Other Coordinating Committee Members Contract Staff (Prospect Associates)

Robert H. Christenson, Ph.D.
Gerald DeVaughn, M.D., F.A.C.C.
J. Lee Garvey, M.D.
Lawrence D. Jones, M.D.
Bruce A. MacLeod, M.D., F.A.C.E.P
Mary Beth Michos, R.N.

Judith Estrin, M.A.
Ann Horton, M.S.
Alexander R. Kuhn, M.P.H.

WELCOME AND INTRODUCTIONS [Dr. Mark Johnson]

Dr. Johnson welcomed subcommittee members and guests and asked the participants to introduce themselves.

PROGRESS WITH TRANSLATION OF REACT INTERVENTION MATERIALS FOR PROFESSIONALS, PATIENTS, AND THE PUBLIC [Ms. Mary Hand and Ms. Terry Long]

Ms. Hand reviewed the history of the Rapid Early Action for Coronary Treatment (REACT) program, a community intervention research program that began in 1991. (A copy of Ms. Hand's slides for this presentation are provided in Attachment G.) A retreat held in June 1996 at the project's midpoint identified seven areas of focus, including three that targeted patient and public education: (1) high-risk patients, (2) patients discharged from the emergency department (ED) and for whom AMI was ruled out, and (3) the public/bystanders.

The major findings of REACT were that there was no difference in delay times in the 10 intervention communities compared with 10 reference (control) communities, but there were increases in use of 9-1-1. The results were first formally presented at the November 1998 meeting of the American Heart Association (AHA), a month after a preview of the results were presented to the NHAAP Executive Committee and staff. Following presentation of the REACT results at the May 1999 NHAAP meeting, the Executive Committee met and made the following recommendations for the future of the program: (1) do not replicate REACT; (2) develop a thoughtful, targeted approach for groups that experience longer delay times (females, the elderly, and minorities); and (3) use other strategies, such as informatics.

After REACT was completed, NHAAP staff reviewed the intervention materials; requested and received the copyright for the REACT materials and Web site (allowing for changes as appropriate); identified approaches to reach key target groups; and performed an environmental scan to identify other efforts to reach the target groups or use similar messages. The scan identified the following potential partners:

- The Society for Chest Pain Centers
- AHA's Operation Heartbeat (see below)
- The Health Care Financing Administration (HCFA), whose National Acute Myocardial Infarction Project is aimed at increasing survival following hospitalization for heart attack among Medicare patients

NHAAP SYMPTOM AND ACTION MESSAGE FOR THE PUBLIC [Ms. Hand]

Ms. Hand reviewed the REACT symptom message, which was developed following a literature review and focus-group testing. (A copy of Ms. Hand's slides for this presentation is provided in Attachment G.). The symptoms include chest pain, discomfort, or pressure; shortness of breath; pain/discomfort in the jaw, neck, arms, shoulders, or back; nausea or breaking out in a cold sweat; and feeling weak, lightheaded, or faint. The special symptom message directed at women is that chest pain is the most common warning sign. Women may first feel pain in the jaws, neck, arms, back or shoulder; they may also feel shortness of breath, break out in a cold sweat, feel sick to their stomach, or feel lightheaded.

REACT's action message was "If symptoms don't go away in 15 minutes, call 9-1-1 or get to a hospital quickly." Because 10 percent of the population does not have access to 9-1-1, she proposed a national message should be: "Call 9-1-1 or use your 7-digit emergency number if 9-1-1 is not available." The action message from the AHA is essentially the same but asks people to call 9-1-1 or EMS "within a few minutes."

Dr. Braslow suggested that the symptom message be phrased in the vernacular, e.g., "hard to breathe" instead of "shortness of breath."

Ms. Hand said that REACT did not include an aspirin message and that NHAAP agrees that aspirin should not be recommended because (1) self-medication may be a source of delay and (2) the AHA/American College of Cardiology guidelines recommend that aspirin be given as soon as patients arrive in the ED.

Participants questioned whether the public will be confused if the message does not mention aspirin, since more people are taking aspirin and have seen the Bayer advertisement. Ms. Hand said that the risk of an aspirin message is that it will dilute the "call 9-1-1" message or increase delay time if persons wait for the aspirin to take effect or go out to purchase it. Furthermore, there is no evidence that aspirin use is time-dependent. It was noted that Bayer was required to focus its heart attack message on "call 9-1-1" rather than on using aspirin as prevention.

Other messages proposed for the post-REACT program will include the following characteristics:

- Dispel the myth of the Hollywood heart attack (dramatic cardiac arrest).
- Explain that "the only way to know for sure is to check it out."
- Emphasize that people who call 9-1-1 will be well received by staff at the ED or emergency medical services (EMS).
- Tout the benefits to be derived from early treatment and accessing EMS.
- Encourage people to talk among themselves and with their doctors to break the conspiracy of silence about heart attack recognition and response.
- Stress the importance of bystander recognition and response.

Ms. Hand noted that Healthy People 2010 has two NHAAP-specific messages for AMI: (1) publish recommendations to increase the proportion of the U.S. public age 20 and older who are aware of early warning signs/symptoms of heart attack and the importance of access to rapid care by calling 9-1-1 and (2) increase the proportion of eligible heart attack patients receiving the benefits of artery-opening therapy within an hour of symptom onset.

Ms. Long described the following plans for strategies to reach defined target audiences through strategic marketing and partnership development. (A copy of Ms. Long's slides for this presentation is provided in Attachment H.)

- Adapt/revise print and video materials. Create the next generation of REACT materials (giving credit to the REACT study). Individual Web site components will target patients/public, health care professionals (offering CME credit), and community health planners.

- Create a comprehensive Web site based on REACT. (The current site is found at www.epi.umn.edu/REACT.)

- Market the next generation of REACT materials via the following channels: Web marketing through linkage with private or public sites (such as Physicians' Online and HealthFinder); professional journals and newsletters; direct mail (cost recovery is necessary for printed materials); consumer media, especially those targeting women, the elderly, and minorities; and industry partners, such as CVS stores.

- The partnership development effort could do the following:

  - Enlist hospital-based organizations and local hospitals as partners. These groups can reach patients at "teachable moments."
  - Focus on EDs and community outreach. Possible partners include the Society of Chest Pain Centers, HCFA's National AMI Project, and the Voluntary Hospital Association (VHA).
  - Encourage and sustain community-based small-group discussions about heart attack.
  - Find partners that have a strong delivery mechanism, such as the National Council on Aging (with 5,000 senior centers) and the Red Cross (which delivers courses at the community level). Use these groups as channels for educational materials.
  - Integrate REACT materials into ongoing professional and community education. Build on existing partnerships (e.g., reach African Americans through the Association of Black Cardiologists).

Ms. Christine Krutzsch discussed a handout listing the following possible target audiences for a marketing flyer for REACT materials:

- Community-based groups, such as community health educators, senior centers and services, and organizations on aging.

- Professionals who see patients at risk, such as doctors; personnel at hospitals, ERs, chest pain centers, and cardiac rehabilitation centers; and members of groups involved in home health care and geriatric medicine.

- Groups that provide broad medical services, such as associations of occupational health, disease management, and managed care.

- Community health agencies such as state and local public health departments, migrant health centers, public housing centers, and area health education centers.

Ms. Long reported that NHAAP has worked with Ogilvy Public Relations to develop the "Keep the Beat" brand for NHLBI's cardiovascular health programs. She asked for feedback on seven possible slogans for the heart attack message:

- React in time to heart attack signs.
- Respond in time.

- Act in time to heart attack signs.
- React fast to heart attack signs.
- Heart attack: first sign, act in time.
- Heart attack: first sign, react in time.
- Heart attack: Know the signs. Take action.

The subcommittee expressed a preference for the last option listed. Other suggestions were: "Know the signs. Don't Delay." and "Know the Signs. Act Fast." Some felt that the word "attack" may not be appropriate because one-third of episodes are silent.

AHA PROGRAMS

Dr. Atkins described AHA's acute event programs—Operation Heartbeat and Operation Stroke—which focus on public education and systems improvement. (A copy of Dr. Atkins' slides for this presentation is provided in Attachment C.) Operation Heartbeat addresses early treatment for cardiac arrest and acute myocardial infarction (AMI). AHA's public education program is operating in 200 direct media markets, using paid ads on radio, television, and in print. The AMI message is "Know the warning signs. Call 9-1-1." AHA will collect data and establish a registry of prehospital and in-hospital databases. It will develop a partnership with the National Registry of Myocardial Infarction, which will provide detailed reports.

The subcommittee agreed that the NHAAP must work with the AHA to avoid conflicting messages. Dr. Atkins said that the AHA has been restructured to focus on three areas: acute intervention, healthy people prevention programs, and disease management. He added that the AHA's science group is in charge of its messages, that Ms. Susan Dance is the new national project director for Operation Heartbeat, and that Dr. Clyde Yancy is the incoming chair of the acute events committee.

EDUCATING PREHOSPITAL PROVIDERS ABOUT THE REASONS FOR PATIENT DELAY: DENIAL, EMBARRASSMENT, AND FEAR [Ms. Mary Beth Michos]

Ms. Michos discussed the reasons patients delay calling 9-1-1, including fear of losing control, loss of privacy, and uncertainty about what will happen to them. While protocols dictate the actions of prehospital providers, these personnel need to be educated to be more sensitive to patient feelings and help patients feel more in control.

Subcommittee members agreed that a systematic review of this topic is needed to identify problems (few data exist in the literature). They felt that solutions may be different in different settings and for different subgroups. Ms. Ann Horton, an observer who had served as president of a regional home care association, said that these associations offer training programs on how to treat patients to overcome their fear of lack of control. Ms. Hand said that the topic will be referred to the Executive Committee.

RECENT PROFESSIONAL EDUCATION ACTIVITIES

Ms. Hand reported that subcommittee members published the following papers:

- Dr. Christine Crumlish and Ms. Hand authored "Reducing Patient Delay in Seeking Treatment for Acute Myocardial Infarction," which was published in the April 1999 issue of *Medsurg Nursing*. This article won the 1999 Medsurg Nursing Writer Award in the category of general medical/surgical nursing.

- Dr. Crumlish, with input from other nurses on the subcommittee, published "When Time is Muscle" in the January 2000 issue of the *American Journal of Nursing*.

- Dr. M. Ray Holt and Ms. Hand wrote "The Pharmacist's Role in Reducing Patient Delay in Seeking Treatment for Acute Myocardial Infarction" in the November/December 1999 issue of the *Journal of the American Pharmaceutical Association*. This article is available on the Web at www.medscape.com.

- Dr. Atkins was one of two editors of a special issue of *Family Practice Recertification—"*Cardiology in Primary Care: Myocardial Infarction." This issue includes an article by Dr. Atkins, Dr. Rodrigue, and Ms. Hand on reducing treatment delay in AMI. In addition, Dr. Selker and Dr. Zalenski were two of three authors of an article on evaluating technologies for the diagnosis of AMI.

Dr. Atkins suggested that because few practitioners treat AMI patients routinely, a card printed with critical pathways would be useful for handing out at meetings.

Ms. Hand reported that discussions are being held about setting up an Extranet for the Coordinating Committee to permit more interaction between meetings. Members will use a password to access the site. This resource will serve as a place where members and the program can post information such as meeting summaries. NHAAP also uses a listserv to facilitate information exchange.

ADJOURNMENT

Dr. Johnson thanked the participants and staff and adjourned the meeting.

National Heart Attack Alert Program

Science Base Subcommittee Meeting

February 28, 2000
Reston, Virginia

NATIONAL HEART ATTACK ALERT PROGRAM
SCIENCE BASE SUBCOMMITTEE

Meeting Summary
February 28, 2000

Subcommittee Members

Joseph P. Ornato, M.D., F.A.C.C., F.A.C.E.P. (chair)
Robert J. Zalenski, M.D. (Vice Chair)
Robert Christenson, Ph.D.
Arthur A. Ciarkowski, M.S.E., M.B.A., M.P.A.
Christopher Cannon, M.D., F.C.C.P.
Denise Hirsch, M.D.
Bruce A. MacLeod, M.D., F.A.C.E.P
Robert A. McNutt, M.D.
Jane D. Scott, Sc.D., M.S.N., R.N.
Harry P. Selker, M.D., M.S.P.H.
Mark S. Smith, M.D.
Pamela Steele, M.D., M.P.H.

Other Coordinating Committee Members

James M. Atkins, M.D., F.A.C.C.
J. Lee Garvey, M.D.
David E. Simmons, Jr., M.S.N., R.N.

Guests

Dale Burwen, M.D., M.P.H
Joseph Lau, M.D.

NHLBI Staff

Mary M. Hand, M.S.P.H., R.N.
Terry Long

Contract Staff (Prospect Associates)

Olivia Cox, M.L.S.
Judith Estrin, M.A.
Alexander R. Kuhn, M.P.H.

WELCOME AND INTRODUCTIONS [Dr. Joseph Ornato]

Dr. Ornato welcomed members and introduced new member Dr. Gerald DeVaughn, representing the Association of Black Cardiologists. He thanked Drs. Costas Lambrew and Eric Topol for their service as advisors and welcomed Dr. Christopher Cannon, who will join Dr. Jane Scott as an advisor to the subcommittee.

EMERGENCY DEPARTMENT TECHNOLOGIES FOR IDENTIFYING ACUTE CARDIAC ISCHEMIA: OVERVIEW OF EVIDENCE REPORT [Dr. Joseph Lau]

Dr. Lau, Director, Agency for Healthcare Research and Quality (AHRQ) Evidence-based Practice Center at the New England Medical Center, presented a summary overview of an evidence report that had been prepared at his center. (A copy of Dr. Lau's slides for this presentation is provided in Attachment J.) The report reviews prospective and retrospective studies of emergency department (ED) technologies for identifying acute cardiac ischemia

(ACI). It includes summary evidence only and no recommendations, as required by AHRQ. The report updates an earlier 1997 report by the NHAAP ED Technologies Working Group. Unlike the earlier report, the current one includes quantitative as well as qualitative data. For both reports, studies were not available to evaluate the technologies' clinical impact.

Dr. Lau presented the following information about the evidence report:

- The literature review included studies of technologies used to diagnose patients ages 18 and older who presented in the ED with symptoms of ACI. Testing was performed in a 4-hour period after presentation to the ED or repeatedly 12 to 14 hours after presentation. Where there were few data, studies in settings other than the ED setting were included.

- Inclusion/exclusion categories were those that (1) included all patients with symptoms/signs suggestive of ACI, (2) used chest pain as an inclusion criterion, (3) included patients with chest pain but excluded those with acute myocardial infarction (AMI), and (4) included patients who were hospitalized or used additional criteria for a highly selective population.

- The evidence was graded on the basis of four dimensions: (1) the study size, (2) applicability (population category and prevalence of disease), (3) diagnostic performance or magnitude of clinical impact, and (4) methodological quality. For clinical impact studies, the methodological quality of evidence was rated as A (least biased), B (some bias), or C (likely to have significant bias). Diagnostic test performance studies were graded similarly.

- The report quantified the evidence using summary receiver operating characteristics (SROC) analysis, combined sensitivity and specificity values using a random effects model, and used a summary diagnostic odds ratio to evaluate how well tests compared with each other. Decision and cost-effectiveness analyses were also conducted for 17 technologies and 4 combinations of technologies.

- The study results are presented in 40 evidence tables, which include information about the local population (demographics), inclusion and exclusion criteria, diagnostic protocol, prevalence of disease (AMI, ACI), reference test and blinding, the experimental test, reference criteria for ACI and diagnostic criteria for AMI, study conclusions, potential verification bias, and limitations and comments.

- The full report will include a narrative description of the study results as well as summary evidence tables and other meta-analyses. The tables list each study by size, population category, prevalent disease, results, and methodological quality.

- Of the more than 6,600 abstracts collected, 407 articles were reviewed, and 106 were included in the evidence report (45 of which were published since 1994).

- Among the 82 studies that reported age, the mean age of patients ranged from 37 to 69. Of the studies that reported gender, 39 to 95 percent were male. Race was reported only rarely. The studies of greatest interest were the 64 that took place in the ED; others were based in the hospital, critical care unit, or prehospital setting.

Dr. Lau said that the evidence-based study was not designed to be used as a prescriptive tool for decision-making because many complex issues are involved. Rather, the hope was to provide insight into variables such as changing diagnostic performance. Dr. Lau added that methodological quality and reporting of diagnostic test performance vary widely. He gave the following recommendations for future research: identify the reasons for this marked variation in prevalence of AMI, even within patients of the same population category and subgroups; evaluate combinations of tests; conduct clinical impact studies; and study technologies for diagnosing unstable angina.

Dr. Lau said that AHRQ plans to release the executive summary at a press conference and later will publish the full report as a Government document and post it on the Internet. The investigators will also publish manuscripts.

SUBCOMMITTEE DISCUSSION

The subcommittee congratulated Dr. Lau and his staff on the thoroughness of the report and thanked them for their efforts. A discussion then centered on how the evidence report should be used. Dr. Lau said that "scientific partners," such as NHAAP, the American Heart Association (AHA), and the American College of Cardiology, can interpret the data and make recommendations for their constituencies. It was noted that the NHLBI was the "customer" that asked AHRQ to commission the report with the goal of helping professional organizations to update their guidelines. In addition, HCFA uses evidence reports to make judgments on reimbursement. Other comments from subcommittee members included the following:

- There is a potential bias against those technologies being studied in only a segment of the group with chest pain. This is especially important if all patients with obvious AMIs are excluded from an analysis. All technologies have a role, and disease has a full spectrum of gradations. If a diagnostic test is used only for certain gradations, it is more difficult to determine the test's impact.

- The report should be more timely. It will be released in 2001, and some sections will be outdated (e.g., the biomarkers section). Dr. Lau said that the 2-year lapse between the study and publication is a problem and that a mechanism to update the report is needed.

- Recent important studies on troponin were excluded from the report, although many such studies are ongoing. Concern was expressed about the possible effects of this exclusion on reimbursement for troponin testing. Dr. Lau said he would have to investigate the reasons for exclusion before he could comment.

- The populations under study need to be standardized (as indicated by the powerful difference in prevalence). Reorganizing the data around prevalence might give a better definition of the spectrum of syndromes in ACI to facilitate understanding.

- A simplifying theory to organize thinking is needed, perhaps a different definition of ACI. Standardization is needed because the complexity of multiple tests is daunting.

The group agreed that it is the subcommittee's responsibility to make the report's findings clearer and to help the readers interpret the data. Although the report is an impressive work, there are opportunities for misunderstanding in terms of implications of clinical practice and reimbursement.

The subcommittee members voted on a proposal to ask the Technology Working Group [NB: or several designated representatives] to review the evidence report and prepare a companion report (an editorial or paper for independent submission) that would serve as a guide to interpreting the report or making recommendations. (The proposal was approved by a vote of 9 to 2.) They suggested the Working Group report be limited in terms of time and expense. Ms. Hand noted that she would take the recommendation to the Executive Committee.

DISCUSSION OF THE NHAAP LITERATURE REVIEW TOPICS

Subcommittee members mentioned noteworthy developments/trends and recent groundbreaking studies that they came upon in their review of the literature on assigned NHAAP topics. A 939-page collection of abstracts for the period February 1, 1998 to December 31, 1999, has been assembled. Some of the subcommittee's main comments are listed below.

Phase I: Patient/Bystander Aspects and Actions. A number of international studies looking at times to treatment and prehospital delay indicate a clear discrepancy between men and women in terms of symptoms and delay times. An article by Hedges and colleagues (Hedges, J.R., N.C. Mann, H. Meischke, M. Robbins, R. Golderg, J. Zapka: Assessment of chest pain onset and out-of-hospital delay using standardized interview questions: the REACT Pilot Study. Rapid Early Action for Coronary Treatment (REACT) Study Group. *Acad Emerg Med* 1998 5:773-780) reports on the use of a standardized patient questionnaire to measure out-of-hospital delay in chest pain patients.

Phase II: Prehospital Aspects and Actions. A study by Picken and colleagues (Picken, H.A., D.R. Zucker, J.L. Griffith, J.R. Beshansky and H.P. Selker: Insurance type and the transportation to emergency departments of patients with acute cardiac ischemia: the ACI-TIPI Trial Insurance Study. *Am J Manag Care* 1998;4:821-827) indicated that managed care participation was not related to treatment-seeking behavior, but other studies did find differences. For example, a survey of 28 HMOs' instructions to members concerning ED and 9-1-1 use (Neely, K.W. and R.L. Norton: Survey of health maintenance organization instructions to members concerning emergency department and 911 use. *Ann Emerg Med* 1999;34:19-24) found that most did not include chest pain in their definition of an emergency or directions to go to an ED or call 9-1-1. Several papers discuss improved outcomes when physicians are involved in the EMS system, and several dealt with allowing relatives to be present during resuscitation (a common practice in

Europe). A nonrandomized study by Cobb and others (Cobb, L.A., C.E. Fahrenbruch, T.R. Walsh, M.K. Copass, M. Olsufka, M. Breskin and A.P. Hallstrom: Influence of cardiopulmonary resuscitation prior to defibrillation in patients with out-of-hospital ventricular fibrillation *JAMA* 1999;281:1182-1188) found increased survival when firefighters changed a protocol to include 90 seconds of CPR before using automatic external defibrillators (AEDs) in cases where response intervals were 4 minutes or longer. Studies on AED use are mostly positive, but a study by Sweeney and others (Sweeney, T.A., J.W. Runge, M.A. Gibbs, J.M. Raymond, R.W. Schafermeyer, H.J. Norton and M.J. Boyle-Whitesel: EMT defibrillation does not increase survival from sudden cardiac death in a two-tiered urban-suburban EMS system. *Ann Emerg Med* 1998;31:234-240) failed to show increased survival with AED use. Several papers dealt with the use of prehospital thrombolytics. A study by Rawles and colleagues (Rawles, J., C. Sinclair, K. Jennings, L. Ritchie and N. Waugh: Audit of prehospital thrombolysis by general practitioners in peripheral practices in Grampian. *Heart* 1998;80:231-234) indicated that general practitioners should give these drugs if there is a long (60 to 90 minute) transport time to a hospital. (Subcommittee members noted that hospitals cannot bill for these drugs if they are given by EMS.)

Phase III: Hospital Aspects and Actions. Studies on troponin indicate that it is helpful, in particular subgroups, especially as a risk-stratifying tool. Heeschen and others (Heeschen, C., C.W. Hamm, B. Goldmann, A. Deu, L. Langenbrink and H.D. White: Troponin concentrations for stratification of patients with acute coronary syndromes in relation to therapeutic efficacy of tirofiban. PRISM Study Investigators. Platelet Receptor Inhibition in Ischemic Syndrome Management. *Lancet* 1999;354:1757-1762) found that troponins reliably identified high-risk patients with acute coronary syndromes who would benefit from treatment with tirofiban. Multiple papers on chest pain centers (CPCs) indicate that they reduce hospitalization. A study by Stomel and others (Stomel, R., R.Grant and K.A. Eagle: Lessons learned from a community hospital chest pain center. *Am J Cardiol* 1999;83:1033-1037) indicated that the creation of CPCs alone will not reduce the rate of admissions, but outcomes improve after creation of a management algorithm. Edhouse and others (Edhouse, J.A., M. Sakr, J. Wardrope and F.P. Morris: Thrombolysis in acute myocardial infarction: the safety and efficiency of treatment in the accident and emergency department. *J Accid Emerg Med* 1999;16:325-330) reported positive results for thrombolytic treatment for AMI patients given in the ED and found that transferring patients to the coronary care unit (CCU) before thrombolysis was associated with unnecessary treatment delay. Cannon and colleagues (Cannon, C.P., W.S. Weintraub, L.A. Demopoulos, D.H. Robertson, G.J. Gormley and E. Braunwald: Invasive versus conservative strategies in unstable angina and non-Q-wave myocardial infarction following treatment with tirofiban: rationale and study design of the international TACTICS-TIMI 18 Trial. Treat Angina with Aggrastat and Determine Cost of Therapy with an Invasive or Conservative Strategy. Thrombolysis in Myocardial Infarction. *Am J Cardiol* 1998;82:731-736) are studying the cost of therapy with invasive versus conservative strategies. Other topics mentioned were discrepancies between black and white patients in referral and intervention; the use of triage at trauma centers; and the development of consensus guidelines for subsets of AMI patients. Only one paper (Maley, R.A.: Risk management at the heart of the matter: addressing acute coronary care. *J Healthc Risk Manag* 1999;19:28-48) discussed legal aspects. A study in which patients were randomized to receive delayed primary angioplasty or thromobolysis found that the former group

had better outcomes. For unstable angina, the biggest trend is risk stratification to determine the subgroups that need aggressive management.

General/Crosscutting Aspects and Actions. Internet-based professional education is a trend, as is Web-based consultation and telemedicine. Sanders and colleagues (Sanders, G.D., C.G. Hagerty, F.A. Sonnenberg, M.A. Hlatky, and D.K. Owens: Distributed decision support using a web-based interface: prevention of sudden cardiac death. *Med Decis Making* 1999;157-166) developed a Web-based interface for previously developed decision analysis models. A paper by Burt (Burt, C.W.: Summary statistics for acute cardiac ischemia and chest pain visits to United States EDs, 1995-1996. *Am J Emerg Med* 1999;17:552-559) presents summary statistics for ACI and chest pain visits to EDs in the United States in 1995 and 1996. A study by Every and others on the influence of insurance type on care of patients with unstable angina (Every,N.R., C.P. Cannon, C. Granger, D.J. Moliterno, F.V. Aguirre, J.D. Talley, J. Booth, S. Sapp, J.J. Ferguson: Influence of insurance type on the use of procedures, medications and hospital outcome in patients with unstable angina: results from the GUARANTEE Registry. Global Unstable Angina Registry and Treatment Evaluation. *J Am Coll Cardiol* 1998;32:387-392) found that managed care patients were more likely to be discharged on beta blockers and aspirin, whereas those in fee-for-service plans were more likely to be offered catheterization—but not revascularization, beta blockers, or aspirin. Other studies indicate that underutilization of beta blockers and aspirin continues to be a problem. Using data from the National Registry of Myocardial Infarction, Becker and colleagues (Becker, R.C., M. Burns, J.M. Gore, F.A. Spencer, S.P. Ball, W. French, C. Lambrew, L. Bowlby, J. Hilbe and W.J. Rogers: Early assessment and in-hospital management of patients with acute myocardial infarction at increased risk for adverse outcomes: a nationwide perspective of current clinical practice. The National Registry of Myocardial Infarction (NRMI-2) Participants. *Am. Heart J* 1998;135:786-796) found that the treatment of high-risk patients is suboptimal and may directly influence outcome.

CRITICAL PATHWAYS FOR TREATMENT OF PATIENTS WITH ACUTE CORONARY SYNDROMES—Paper Overview [Dr. Cannon]

Dr. Cannon summarized Draft 2 of the paper by the Critical Pathways Writing Group. (A copy of Dr. Cannon's slides for this presentation is provided in Attachment D.) Critical/clinical pathways are standardized protocols for care and can be defined either strictly (with a full list of all tasks) or more broadly. The goals of the critical pathways are to increase use of recommended medical therapies (e.g., aspirin), decrease use of unnecessary tests, decrease hospital length of stay, increase participation in clinical research protocols, improve patient care and outcomes, and decrease overall cost.

The following steps lead to the development and implementation of the critical pathway:

- Identify problems in patient care (such as practice variation, excess resource use, failure to provide known evidence-based therapies, etc.).

- Identify a working committee/task force to develop or modify an existing pathway for the development of optimal clinical path guidelines for medical care.

- Distribute the draft critical pathway to all personnel and departments involved. Make sure that all parties buy into the pathway. Revise the pathway to reach a consensus.

- Implement the pathway, preferably involving one or more prominent, local clinical champions.

- Collect and monitor data on critical pathway performance.

- Modify the pathway, as needed, to further improve performance.

Implementation models range from a strictly implemented critical pathway for which case managers evaluate each patient and ensure that all steps in the pathway are carried out, to a simpler model that uses standardized order sets (pocket guides). A 1999 study by Holmboe and colleagues showed similar improvements in care with the two types of pathways.

Sample pathways included in the paper are the Brigham and Women's Hospital Chest Pain Pathway Summary (a checklist), the University of Michigan Medical Center's Heart Care Program Pocket Guide for unstable angina, and the University of Cincinnati's "Heart ER" Strategy.

The paper concludes that clinical pathways hold great promise for improving quality of care, clinical outcomes, and cost effectiveness of treating patients with acute coronary syndromes. Pathways have been developed in numerous levels of complexity and with different areas of emphasis, though all types seem to work. The primary focus of pathways should be on improving quality of care and, in turn, clinical outcomes. Improved cost-efficiency of care is an important secondary goal. Further research is needed to better define the worth of these tools.

Dr. Cannon noted that the paper will be complemented by a Web site on critical pathways, which will include the paper, an annotated literature review, example pathways, downloadable slides, and possible links to other sites. Ms. Hand asked participants to give their written comments on the paper to Dr. Cannon.

Dr. Cannon reviewed data on door-to-needle time versus mortality that he will present at a meeting of the American College of Cardiology. In a study of 85,000 patients, there was no increase in mortality with delay times up to 30 minutes. With delays longer than 60 minutes, however, there was a significant (11 to 23 percent) increase in adjusted mortality.

RESEARCH RECOMMENDATIONS SUGGESTED BY THE RAPID EARLY ACTION FOR CORONARY TREATMENT (REACT) TRIAL

Dr. Ornato led a discussion about whether there should be funding for further research on changing patient behavior. Dr. Scott said she would like to see the results of an AHRQ study that blanketed 170,000 Seattle households with three messages, and a study of a discharge education system. She noted that any campaign should have a dual component to address the different symptoms in men and women.

Dr. Atkins said that the AHA will launch paid radio, television, and print ads about warning signs and the need for fast action. He added that a new Bayer ad tells people to call 9-1-1 if they take aspirin for chest pain, and that Amana plans to provide information about heart attack and stroke that can be placed on refrigerator doors.

Ms. Hand pointed out that the NHAAP mainly funds education programs rather than research but is also funding an informatics project in collaboration with the National Library of Medicine.

Based on the discussion, Dr. Ornato concluded that the subcommittee is not enthusiastic about recommending further funding for REACT-type research projects.

ADJOURNMENT

Dr. Ornato thanked the members for their input and adjourned the meeting.

National Heart Attack Alert Program

Executive Committee Meeting

February 29, 2000
Reston, Virginia

EXECUTIVE COMMITTEE

Meeting Summary
February 29, 2000

Executive Members

James M. Atkins, M.D., F.A.C.C. (chair)
Mark B. Johnson, M.D., M.P.H.
Claude Lenfant, M.D.
Bruce MacLeod, M.D., F.A.C.E.P.
Mary Beth Michos, R.N.
Joseph P. Ornato, M.D., F.A.C.C., F.A.C.E.P.
George Sopko, M.D.

NHLBI Staff

Mary M. Hand, M.S.P.H., R.N.

Contract Staff (Prospect Associates)

Don Cunningham, M.A.
Alexander R. Kuhn, M.P.H.

INTRODUCTION [Dr. Atkins]

Dr. Atkins welcomed the Executive Committee members to the meeting. He announced the resignation of Dr. Rodrigue from the committee, noting that Dr. Rodrigue had been a strong supporter of the group's work for many years. Dr. Atkins asked the subcommittee chairs to report on their subcommittee meetings.

EDUCATION SUBCOMMITTEE [Dr. Johnson]

Dr. Johnson reported on the subcommittee's discussion of efforts to translate the results of the REACT program, focusing on the idea of shifting from a local focus to a national focus.

Dr. Atkins reported on the American Heart Association's (AHA's) upcoming "Heartbeat" campaign (Operation Heartbeat and Operation Stroke), which will include a large media campaign. The executive committee discussed the need to coordinate the messages of the NHAAP and AHA. They also suggested that the NHAAP might direct educational activities toward groups not targeted by the AHA campaign. Dr. Ornato stated that he would present the ideas of the subcommittee to the AHA.

Ms. Michos described the concern of fire chiefs that patients often do not call for emergency services because they fear the embarrassment that results from drawing lights, sirens, and activity to their neighborhoods. The subcommittee agreed that there is a lack of research on this problem.

Finally, the subcommittee noted recent professional activities and published articles.

HEALTH SYSTEMS SUBCOMMITTEE [Dr. MacLeod]

Dr. MacLeod reported that the Health Systems Subcommittee has a new vice chair, Ms. Michos. The subcommittee discussed the issue of measures and measurement after listening to a talk by Dr. Burwen of the Health Care Financing Administration (HCFA). Members decided to consider business coalitions in future efforts.

The subcommittee members discussed the issue of embarrassment that causes patients to avoid using emergency services. Dr. MacLeod said that this issue needs to be clarified and awareness raised. The NHAAP might stimulate a discussion involving interested groups, such as fire chiefs, and could contribute scientific data. Dr. Ornato remarked that current systems are not flexible, and the best hope may lie in the area of technology, including telemedicine and electronic devices worn by patients.

SCIENCE BASE SUBCOMMITTEE [Dr. Ornato]

Dr. Ornato reported that Dr. Lau presented the evidence report on technologies at the Science Base Subcommittee meeting. Subcommittee members discussed the need to provide a preface or editorial that would explain certain technical aspects of the report and prevent misunderstandings and possible misuse of the report. Dr. Lenfant agreed that writing such editorials to accompany the published report was permissible. Dr. Ornato proposed that a few committee members create an editorial "to guide the reader." He also reported that the subcommittee had discussed their literature review and clinical pathways paper.

REVIEW OF COORDINATING COMMITTEE MEETING AGENDA

Dr. Atkins described a single change to the agenda for the Coordinating Committee meeting, that being the inclusion of references to HCFA measurement issues and the AHA HeartBeat effort in his talk.

Dr. Lenfant introduced Dr. Sopko, who will replace Dr. Michael Horan as the Institute's physician advisor to the NHAAP and report on NHLBI research activities in the area of cardiovascular medicine. Dr. Atkins announced the upcoming NHAAP Coordinating Committee meeting in October, which might focus on informatics, and the NHAAP anniversary meeting in June 2001. He then adjourned the meeting.

National Heart Attack Alert Program

Attachments

February 28–29, 2000
Reston, Virginia

Attachment A

National Heart Attack Alert Program
Coordinating Committee Meeting

Participants

February 28, 2000

Organization	Representative
Agency for Healthcare Research and Quality	Daniel Stryer, M.D.
American Academy of Insurance Medicine	Lawrence D. Jones, M.D.
American Association for Clinical Chemistry, Inc.	Robert H. Christenson, Ph.D.
American Association of Critical Care Nurses	Kathleen G. Keenan, M.S.N., R.N.
American Association of Occupational Health Nurses	Hannah Y. Ruggiero, R.N., COHN-S
American College of Cardiology	James M. Atkins, M.D., F.A.C.C.
American College of Chest Physicians	Denise Hirsch, M.D.
American College of Emergency Physicians	Mark S. Smith, M.D.
American College of Occupational and Environmental Medicine	Emmett B. Ferguson, M.D.
American College of Preventive Medicine	Mark B. Johnson, M.D., M.P.H.
American Heart Association	Joseph P. Ornato, M.D., F.A.C.C, F.A.C.E.P.
American College of Physicians	Robert A. McNutt, M.D.
American National Red Cross	Jill K. Gross, M.P.H., C.H.E.S.
Association of Black Cardiologists	Gerald DeVaughn, M.D., F.A.C.C.
Centers for Disease Control and Prevention	Wayne H. Giles, M.D.
Department of Veterans Affairs	Pamela Steele, M.D., M.P.H.
Emergency Nurses Association	Julie Bracken, R.N.
Food and Drug Administration	Arthur A. Ciarkowski, M.S.E., M.B.A., M.P.A.
Health Care Financing Administration	Jay Merchant, M.H.A.
Health Resources and Services Administration	David B. Snyder, R.Ph., D.D.S.
International Association of Fire Chiefs	Mary Beth Michos, R.N.
International Association of Fire Fighters	Lori Moore, M.P.H.
National Association of Emergency Medical Technicians	Christopher Cebollero, M.S., E.M.T.-P.

National Association of EMS Physicians	Bruce MacLeod, M.D., F.A.C.E.P.
National Association of State Emergency Medical Services Directors	Jimm Murray
National Black Nurses Association	David E. Simmons, Jr., M.S.N., R.N.
National Heart, Lung, and Blood Institute	Claude Lenfant, M.D.
National Highway Traffic Safety Administration	Jeffrey Michael, Ed.D.
Society for Academic Emergency Medicine	Robert J. Zalenski, M.D.
Society of Chest Pain Centers and Providers	J. Lee Garvey, M.D.
Society of General Internal Medicine	Harry P. Selker, M.D., M.S.P.H.

[Absent]

American Nurses Association, Inc.	Christine M. Crumlish, Ph.D., R.N.
American Pharmaceutical Association	M. Ray Holt, Pharm.D.
American Public Health Association	William J. Schneiderman
Department of Defense, Health Affairs	David W. Ferguson, M.D.
National Center for Health Statistics	Robert Gillum, M.D.
National Medical Association	Charles Curry, M.D.
NHLBI Ad Hoc Committee on Minority Populations	Charles A. Cook, M.D.

[Vacant]

American Academy of Family Physicians

American Association of Health Plans

American Hospital Association

American Medical Association

NHAAP Advisors

Angelo Alonzo, Ph.D.	Ohio State University
Allan Braslow, Ph.D.	Braslow Associates
Christopher Cannon, M.D., F.C.C.P.	Brigham and Women's Hospital
Jane D. Scott, Sc.D., M.S.N., R.N.	University of Maryland School of Medicine

Invited Speakers

Darwin LaBarthe, M.D., Ph.D., M.P.H.	Centers for Disease Control and Prevention
Clay Mann, Ph.D., M.S.	Intermountain Injury Control Research Center
Stavroula Osganian, M.D., M.P.H.	REACT Project

NIH and NHLBI Staff

Amy Danzig
Mary M. Hand, M.S.P.H., R.N.
Nancy A. Hart, M.A.
Peter Kaufmann, Ph.D
Christine B. Krutzsch
Terry Long
Gregory Morosco, Ph.D., M.P.H.
Frederick Rohde, M.A.
George Sopko, M.D.
Diane E. Striar
Carole Webb, M.S.N., C.C.R.N.

Guests

Dale Burwen, M.D., M.P.H.	Health Care Financing Administration
Jane Cheeseman, R.N.	Mary Washington Hospital
Michelle Fried	American College of Emergency Medicine
Joseph Lau, M.D.	New England Medical Center
William McLellan, M.S.	Dade Behring
Josephine P. Nardolillo, R.N.	Mary Washington Hospital
Helen Stemler, Ph.D., C.H.E.S.	Paul Dudley White Coronary Care System
Michael F. White	Biomedical Research Application and Health Communication

Contract Staff (Prospect Associates)

Olivia Cox, M.L.S.
Don Cunningham, M.A.
Judith Estrin, M.A.
Ann Horton, M.S.
Alexander R. Kuhn, M.P.H.

Attachment B

National Heart Attack Alert Program
Coordinating Committee Meeting
National Heart, Lung, and Blood Institute

February 29, 2000
Sheraton Reston Hotel
Reston, Virginia
8:30 a.m. – 1:30 p.m.

Final Agenda

8:30 a.m.	Welcome and Introduction of New Members	Dr. Claude Lenfant
8:45 a.m.	Executive Committee Report	Dr. James Atkins
9:00 a.m.	Subcommittee Reports	
	– Health Systems	Dr. Bruce MacLeod
	– Education	Dr. Mark Johnson
	– Science Base	Dr. Joseph Ornato
9:40 a.m.	Critical/Clinical Pathways for Treatment of Patients With Acute Coronary Syndromes	Dr. Christopher Cannon
9:55 a.m.	Key Activities in Emergency Cardiac Care: Update	Dr. Ornato
10:15 a.m.	NHLBI Workshop: Post-Resuscitation and Initial Utility in Life Saving Efforts (PULSE)	Ms. Carole Webb
10:30 a.m.	American Red Cross Video AWorkplace Training: Signals of a Heart Attack"	Ms. Jill Gross
11:00 a.m.	Healthy People 2010 Heart Disease and Stroke Objectives Related to the NHAAP	Mr. Fred Rohde
11:10 a.m.	Sharing Lessons Learned From the REACT Trial: Introduction	Ms. Mary Hand
11:15 a.m.	Effects of a Community Intervention on Use of Emergency Medical Services for Patients With Acute Cardiac Ischemia	Dr. Stavroula Osganian

11:30 a.m.	Demographic, Belief, and Situational Factors That Influence the Decision To Use EMS Among Chest Pain Patients	Dr. Clay Mann
11:45 a.m.	Impact of Community Intervention on Multiple Components of Delay Time Between Symptom Onset and Treatment for Acute Coronary Events: The REACT Community Trial	Dr. Darwin LaBarthe
12:00 p.m.	Update on Translating REACT Materials for National Dissemination	Ms. Hand, Ms. Terry Long
12:30 p.m.	Discussion: Further Insights for NHAAP's Research Translation Efforts for the Public	Panel
1:30 p.m.	Adjournment	Ms. Hand

Next Meeting: October 2, 2000

Attachment C
Dr. Atkins' Presentation Slides

Attachment D
Dr. Cannon's Presentation Slides

Attachment E
Dr. Ornato's Presentation Slides

Attachment F
Mr. Rohde's Presentation Slides

Attachment G
Ms. Hand's Presentation Slides

Attachment H
Ms. Long's Presentation Slides

Attachment I
Dr. Burwen's Presentation Slides

Attachment J
Dr. Lau's Presentation Slides